Air Force SBIR Impact

Advanced Satellite Propulsion Technology

Company:
Busek Company, Inc.

Location:
Natick, MA

Employees:
18

President:
V. Hruby, Ph.D.

Project Officer:
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AFRL Propulsion Directorate,
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SBIR Technology

The next generation of military satellites call for operating with lower power and smaller size while maintaining capabilities of larger, complex, multi-mission spacecraft. Busek Company, Inc. developed a low power xenon Hall thruster propulsion system. The low power xenon Hall thruster is an on-board electro propulsion system requiring low power to operate (nominally 200 W input power), high specific impulse, and high efficiency.

Company Impact

As a result of the Hall thruster, a development activity initially sponsored by the Air Force SBIR Program, Busek executed a licensing agreement with the Primex Aerospace Company in Redmond, Washington, for multi-kilowatt Hall thruster technology. The impressive performance and long-life capability of the thruster system resulted in Lockheed Martin Missiles and Space (LMMS) awarding Primex a commercial contract

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for flight hardware development, qualification and integration of Hall thruster technology on LMMS next generation satellites.

To date, Busek has derived about $500,000 in revenue from the license and anticipates an additional $1 to $2 million more in royalties over the remaining term. A significant portion of the revenue derived from the license was used to acquire and install one of the largest privately owned vacuum test facilities dedicated to Hall thruster development.

Busek expects Hall thrusters to assume a significant percentage of the on-board propulsion for the growing military and commercial satellite market.

Company Quote

"The Air Force saw an opportunity within the SBIR program to capitalize on the military and commercial potential of next generation, advanced, on-board propulsion technology which existed in Russia but not in the U.S. The SBIR program provided the Air Force and Busek with the opportunity to develop the first entirely U.S. designed Hall thruster."

Dr. V. Hruby
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